DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002284
Date Inspected: 14-May-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name: Shao Chen Sun and Zhu Tian Shu

CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and SAS Tower

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on these Bays mentioned below;

1) Bay # 2: 77 and 114M Tower Mock-ups
This QA Inspector observed Tower Mock-up was idle. Nobody was seen working or welders around the two mock-ups. On separate location, this QA observed thermal cutting of plates with various sizes and shapes. It was also observed that one plate was being readied for rolling. On horizontal milling machine, one plate was seen complete and two plates were in-progress on beveling.

2) Bay #3: Side/Bottom/Edge Panels
Tack welding of T stiffener on plate for bottom panel BP-61A was observed by this QA Inspector. The qualified welder was identified with ID# 037779 and was using electrode THJ506Fe-1 and procedure WPS-B-P-2112-FCM. QC was seen monitoring the tack welding/fit-up. On separate location another welder was noted doing the same welding activity on bottom panel marked BP034-001. The welder on this panel was ID# 066401 and was using the same procedure.

One side panel marked SP096-001-019 was noted with crack on two tack welds. This was discovered by ABF Inspector and this Inspector notified QA Task Leader Dave Mc Clary. ZPMC personnel removed the cracks on

two tack welds by grinding off these tack welds. Tack weld removal was then Magnetic Particle Tested (MT) and found acceptable.

3) Bay #4: Tower Diaphragms
Caltrans QA Inspector observed Submerged Arc Welding (SAW) on 75mm thick splices of two plate diaphragms. These are complete penetration joints and were using procedure WPS-B-T-3221-B-U3C-S-1. The first splice joint was marked WSDI-SA-238-A/B-3A & 4B and welded by ID# 053748. The second splice joint was marked WSDI-SA-318-A/B/3B and welded by ID# 049804. Their welding parameters were 612Amps, 31Volts with 490 mm/min and 617Amps, 30.8Volts with 509mm/min respectively. CWI and QC were seen monitoring the welding parameters on these two welders.

This QA Inspector also observed hot bending using oxy-acetylene on heavy plates/flanges with the aid of hydraulic ram and welded jig. These plates are intended for diaphragm ring that will be spliced together.

4) Bay #7: Orthotropic Box Girder (OBG) Floor Beams
This QA Inspector observed drilling of bolt holes on floor beam FB014. On separate location, tack welding/fit-up on flange to web was observed on two floor beams marked FB003-041 and FB003-042. Two welders were noted tack welding and they were identified on ID# 058102 and ID# 049339 and both welders were using procedure WPS-B-P-2112. Flux Cored Arc Welding on fillet weld of web to flange was also observed on floor beam marked FB005-013 weld numbers 015 and 027 and they were welded by ID# 067036 and ID# 044824 using procedure WPS-B-T-2132-3.

5) Bay #8: Tower Diaphragms
Caltrans QA observed Submerged Arc Welding (SAW) on two tower diaphragms. These are complete penetration joints splice plate and were using procedures WPS-B-T-3221-B-U2C-S-1 and WPS-B-T-2221-B-U3-S-1. The first splice joint was marked NSDI-SA169A/B-1A and welded by ID# 045270. The second splice joint was marked SDI-A4-238-9A and welded by ID# 050323. Their welding parameters were 606Amps, 30Volts with 473 mm/min and 500Amps, 29.8Volts with 450mm/min respectively. CWI and QC were seen monitoring the welding parameters on these two welders.

This QA Inspector also observed hot bending using oxy-acetylene on heavy plates/flanges with the aid of hydraulic ram and welded jig. These plates are intended for diaphragm ring that will be spliced together.

On tower diaphragm ring SSDI-SA-326, this QA Inspector noted no welding activity but grinding on rough cut edge was on going.

WELDING INSPECTION REPORT

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Summary of Conversations:

No significant conversation occured today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer